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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Shoji Kodama

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10/17/2006

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EXAMINER

BLAIR, DOUGLAS B

ART UNIT

PAPER NUMBER

2142

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,337

Applicant(s)

KODAMA, SHOJI

Examiner

Douglas B. Blair

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-27 and 29-36 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-7,9-27 and 29-36 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/1/06.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Claims 1-7, 9-27, and 29-36 are currently pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 9-27, and 29-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,774,660 to Brendel et al. in view of U.S. Patent Number 6,324,580 to Jindal et al.

4. As to claim 1, Brendel teaches a system for optimizing data access, comprising: a file server capable of communicating with one or more clients (col. 9, lines 18-26, the load balancer is the file server); and a plurality of storage elements organized into pairs for storing a plurality of files, each pair having a master storage element and at least one mirrored storage element, and each mirrored storage element having a copy of data stored on the master storage element (col. 9, lines 41-51, servers 52A-C are the mirrored storage elements); wherein the file server maintains file information on where each of the plurality of files is stored on which pair of storage elements (col. 10, line 54-col. 11, line 2. the load balancer maintains a directory table of locations of different files. Note that Brendel does not require all of the servers to be "paired" but at least some servers are, specifically those carrying the same files, therefore Brendel anticipated the

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claims), and maintains access load information regarding each one of the pair of storage elements (a load balancer inherently maintains access load); and wherein when a client requests file information for a requested file from the file server, the file server determines which pair of storage elements has the requested file, and further determines which storage element within the pair of storage elements is to be accessed based upon use of the storage system (col. 9, lines 18-64, the load balancer picks a server based on use); however Brendel does not explicitly teach the client accessing the identified storage elements to retrieve the requested file absent the file server.

Jindal teaches a system for optimizing data access, comprising: a file server capable of communicating with one or more clients (Figure 1, nameserver 100 communicates with client 120); and a plurality of storage elements (Figure 1, servers 110, 112, and 114); wherein the file server maintains file information on where each of the plurality of files is stored on which storage element and maintains access load information regarding each storage element (col. 5, lines 48-55); wherein when a client requests file information for a requested file from the file server, the file server determines which storage element has the file and returns the client information including a storage element that is to be accessed, the storage element being identified based upon use of the storage system (col. 6, lines 4-19), and wherein the client initiates I/O operation with the identified storage element to access the requested file absent the file server (col. 5, lines 48-55, an IP address of the storage element is returned to the client so the client can then access that storage element directly).

It would have been obvious to one of ordinary skill in the Computer Networking art to combine the teachings of Brendel regarding a load balancing system for mirrored storage

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elements with the teachings of Jindal regarding the access of a storage element absent the use of the file server because accessing the storage element absent the file server increases system efficiency (Jindal, col. 1, line 62-col. 2, line 12).

5. As to claim 2, Brendel teaches the system according to claim 1 wherein the plurality of storage elements is a plurality of disk drives (col. 10, lines 48-52, each server has a disk drive).

6. As to claim 3, Brendel teaches the system according to claim 1 wherein the plurality of storage elements are provided in a single storage system (In Brendel the system with the load balancer and servers can be considered a "single storage system").

7. As to claim 4, Brendel teaches the system according to claim 1 wherein the plurality of storage elements are provided in at least two storage systems (In Brendel each particular server could be considered a storage system by itself).

8. As to claim 5, Brendel teaches the system according to claim 1 further comprising: a plurality of host computers; wherein the file server resides on one of the plurality of host computers; and wherein the one or more clients reside on remaining ones of the plurality of host computers (Figure 6).

9. As to claim 6, Brendel teaches the system according to claim 1 further comprising apparatus configured to synchronize data stored on each pair of storage elements (In col. 10, line 54-col. 11, line 2, since the same files are contained on the pairs of servers they are considered synchronized).

10. As to claim 7, Brendel teaches the system according to claim 1 wherein the master storage element and the at least one storage element within a pair are contained in a single storage system (See the reasoning for claim 3).

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11. As to claim 9, Brendel teaches the system according to claim 1 wherein if it is determined that a mirrored storage element is to be accessed for the requested file and the mirrored storage element which is to be accessed contains a latest copy of data for the requested file stored on the corresponding master storage element, the client directly retrieves the requested file from the mirrored storage element (col. 11, lines 3-23).

12. As to claim 10, Brendel teaches the system according to claim 9 wherein if it is determined that a mirrored storage element is to be accessed for the requested file and the mirrored storage element which is to be accessed does not contain a latest copy of data for the requested file stored on the corresponding master storage element, the latest copy of data for the requested file stored the corresponding master storage element is retrieved from the corresponding master storage element and then forwarded to the client (col. 11, lines 3-23).

13. As to claim 11, Brendel teaches the system according to claim 1 wherein the file information on where each of the plurality of files is stored on which pair of storage elements includes file allocation lists (the directory pointed out above).

14. As to claim 12, Brendel teaches the system according to claim 1 wherein when determining which of the storage elements within the pair of storage elements having the requested file is to be accessed, consideration is given to ensure that all the storage elements within the pair of storage elements having the requested file are accessed in a substantially balanced manner (the load balancer as pointed out above).

15. As to claim 13, Brendel teaches the system according to claim 1 wherein upon determining which of the storage elements within the pair of storage elements having the requested file is to be accessed, the file server forwards information relating to the determination

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to the client thereby allowing the client to retrieve the requested file from the determined storage element (col. 11, lines 3-27).

16. As to claim 14, Brendel teaches the system according to claim 13 wherein upon forwarding the information relating to the determination to the client, the file server updates the access load information to ensure accurate monitoring of access balance of the pairs (inherent to the load balancer; a load balancer must be dynamic otherwise it would be useless).

17. As to claims 15-27 and 29-36, they feature the same limitations found in claims 1-7 and 9-14 and are rejected for the same reasons as claims 1-7 and 9-14.

Response to Arguments

18. Applicant's arguments, see Remarks/Arguments, filed 9/1/2006, with respect to the rejection(s) of claim(s) 1-7, 9-27, and 29-36 under 35 U.S.C. section 102(b) as being anticipated by Brendel have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Brendel and Jindal under 35 U.S.C. section 103.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

20. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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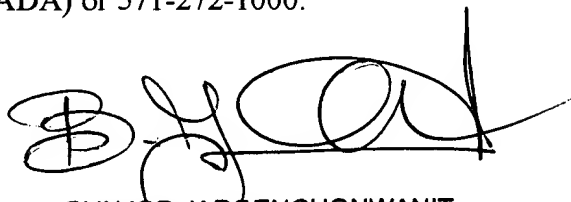
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas B. Blair whose telephone number is 571-272-3893. The examiner can normally be reached on 8:30am-5pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Douglas Blair
DBB



BUNJOB JABOENCHONWANIT
SUPERVISORY PATENT EXAMINER

